

### Remarks

Claims 1-14, and 24-25 are withdrawn. Claims 16 and 17 are canceled. Claim 15 is amended. Claims 26 and 27 are new. After the amendments claims 15, 18-23, 26 and 27 remain pending and under consideration in the application.

The basis for the changes to claim 15 appears in prior claims 16 and 17. The basis for new claim 26 appears in the specification at paragraph [0016]. The basis for new claim 27 appears in former claims 15-17 and 20, and in the specification at paragraph [0016].

Claims 15, 16, 18 and 23 were rejected under Section 102 as being anticipated by Mancuso. Claim 16 is cancelled. As former claim 17 was wrapped into the current claim 15 it is believed the rejection is overcome with respect to claim 15 as well as to claims 18 and 23 being dependent thereon.

Claims 17 and 19-22 were rejected based on "obviousness" over Mancuso in view of Wightman et al. Please reconsider the rejections in light of the amendments and the remarks which follow.

The Supreme Court KSR decision mandated "predictability" as a standard under Section 103 for determining patentability. KSR International Co. v. Teleflex, Inc., 82 USPQ2d 1385 (2007). In applying this standard it is believed the cited art evidences a lack of predictability for claim 15, as amended. The nature of the problem to be solved by Mancuso (US Pat. No. 6,145,517) was the removal of matter from a reactor. Mancuso at Col. 3, L. 61-67 to col. 4, L. 1-3. Amended claim 15 similarly contemplates removal of matter from a reactor. However the teachings of the prior art, i.e. Mancuso taught that the matter should be removed with a clamshell bucket through side portholes. Mancuso at col. 6, L. 61 to col. 7, L. 13. This is a tedious procedure as compared to vacuuming, and Mancuso could have benefited from the implementation of a vacuum line connected through the reactor and robotic device. It is believed that if the

implementation of a vacuum line (such as taught by Wightman et al.) were predictable then Mancuso, being at the leading edge or above the level of one of ordinary skill in the art, would have implemented same into such a system more so even as Mancuso was motivated to remove the matter "quickly and efficiently" from the reactor. See Mancuso at col. 7, L. 11-12. So in the case of Mancuso, none of (1) the nature of the problem to solved; (2) the teachings of the prior art; and (3) the knowledge of persons of ordinary skill in the art led Mancuso to predict the subject matter of claim 15 as amended.

Moreover, the Wightman et al. (US Pat. No. 6,145,517) boom arm 9 is either (1) independent of the suction tube 7 (embodiment and teaching for Fig. 1, Wightman); or (2) the only way to move horizontally is within the disclosed frame 53 (embodiment and teaching for Figs. 5 and 8, Wightman) such disclosure not being functional or advantageous for motion within a reactor because such would not fit and operate through the entryway to the reactor and would not allow acceptable range of motion within the reactor once inside. See, for example, Applicants' disclosure at specification paragraphs [0016] and [0017] that the entire cleaning arm (with vacuum line) and robotic device must be functional to move through the entry manway 12 (an inherent feature of a reactor), and/or trays 14 with tray manways 16. If a prior art reference requires some modification in order to meet the claimed invention or requires some modification in order to be properly combined with another reference and such a modification destroys the purpose or function of the invention disclosed in the reference, one of ordinary skill in the art would not have found a reason to make the claimed modification. See MPEP2143.01 ("If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification").

Continuing the discussion of the previous paragraph, further modification through the teachings of Mancuso and Wightman et al. would not result in a functional system because a vacuum hose implemented into Mancuso would

kink and/or tear at the pivot point 82 for boom 38 and at the interface allowing rotation between support member 74 and second shaft 78. So, once again, the proposed modification cannot render the prior art unsatisfactory for its intended purpose. Hence, there is no teaching, suggestion, motivation or predictability for passing the devices through the opening to the reactor with provision for the vacuum line to pivot, move around, up, down, and extend without kinking or tearing the vacuum line within the reactor.

Claim 20 further recites that the cleaning arm includes an articulatable frame assembly and a suction line mounted to the articulatable frame assembly. This structure makes the apparatus functional for the intended purpose as discussed above and the motivation for making a modification necessary to arrive at the claimed invention cannot come from the Applicants' specification. Therefore, it is believed claim 20 recites allowable subject matter.

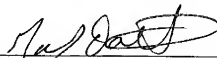
With respect to claim 22 the inspection camera mounted on the cleaning arm must also be functional for its intended purpose and the modification of Mancuso by Wightman et al. would once again not allow functional entry, exit and travel within the reactor together with the other claimed structure for their intended purpose. Claim 22 is believed to be allowable.

New claim 26 dependent upon claim 20 recites further structure allowing the robotic device and cleaning arm with the vacuum line to move through the entryway and to operate within the reactor for the intended purpose. It is believed there was a long felt need for the claimed apparatus and that Mancuso as modified by Wightman et al. could not fit through the entry way and clean within the vessel with a vacuum line extending through the robotic device, rotatable and articulatable, as claimed. Claim 26 is further believed to be allowable.

New claim 27 is in independent form and recites a combination of the claims 15, 20, and 26 all discussed above. The remarks made above with respect to such claims will not be repeated here for sake of brevity. Claim 27 is also believed to be allowable.

Please reconsider and reexamine the application, and telephone the undersigned attorney if it could help to expedite the resolution of this application.

Respectfully Submitted,



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